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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

[Signature]
Attorney for Applicant

Date: 15 January 2004

Application No. : 10/666,147
Applicant : Deb, et al.
Filed : 18 September 2003
TC/A.U. : 2858
Examiner : Not Yet Assigned

Atty. Docket No. : DB001039-001
Customer No. : 24122

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

TRANSMITTAL

Enclosed for filing in the above-captioned application, please find the following:

- An Information Disclosure Statement;
- Form PTO/SB/08A; and
- Form PTO/SB/08B (3 sheets) along with twenty-three (23) cited references.

Also enclosed is a return postcard. Please date stamp and mail the postcard in order to acknowledge receipt of the above-reference correspondence. The Commissioner is hereby authorized to charge any underpayment or credit any overpayment to our Deposit Account No. 20-0888. A duplicate copy of this transmittal is enclosed.

Respectfully submitted,

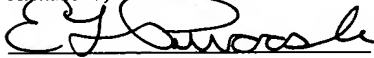
[Signature]

Edward L. Pencoske
Reg. No. 29,688
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One Oxford Centre
301 Grant Street, 14th Floor
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Tel.: 412/394-7789
Fax: 412/394-2555
Attorney for Applicant

Dated: 15 January 2004

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To: Commissioner of Patents
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Alexandria, VA 22313-1450

Information Disclosure Statement

Sir:

Pursuant to the provisions of 37 CFR §§1.56 and 1.97-98, enclosed herewith is:

- ☒ Form PTO/SB/08A
- ☒ Form PTO/SB/08B

listing references for consideration by the Examiner. Copies of the references listed on PTO/SB/08B are enclosed.

The filing of this Information Disclosure Statement shall not be construed as a representation regarding the completeness of the list of references, or that inclusion of a reference in this list is an admission that it is "prior art" to this application, or that a search has been made, or as an admission that the information listed is, or may be considered to be, material to patentability as defined in 37 CFR §1.56, or that no other material information exists, and shall not be construed as an admission against applicant(s) interest in any manner.

The Information Disclosure Statement submitted herewith is being filed pursuant to:

- ☐ 37 C.F.R. §1.97(b)(1); no fee is required;
OR
- ☐ 37 C.F.R. §1.97(b)(2); no fee is required;
OR
- ☒ 37 C.F.R. §1.97(b)(3); no fee is required;
OR
- ☐ 37 C.F.R. §1.97(b)(4); no fee is required;
OR
- ☐ 37 C.F.R. §1.97(c);
AND either

☐ The fee set forth in §1.17(p) is attached; OR

Applicant certifies pursuant to 37 CFR §1.97(e) that:

- ☐ each item of information contained in this Information Disclosure Statement was first cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this statement; OR
- ☐ no item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing this certification after making reasonable inquiry, no item contained in the Information Disclosure Statement was known to any individual designated under 37 CFR §1.56(c) more than three months prior to the filing of this statement;

OR

Application No.: 10/666,147
Dated: January 15, 2004
Information Disclosure Statement

- ☐ 37 C.F.R. §1.97(d); the fee set forth in §1.17(p) is attached,
AND
- ☐ each item of information contained in this Information Disclosure Statement was first cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this statement; OR
- ☐ no item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing this certification after making reasonable inquiry, no item contained in the Information Disclosure Statement was known to any individual designated under 37 CFR §1.56(c) more than three months prior to the filing of this Statement.

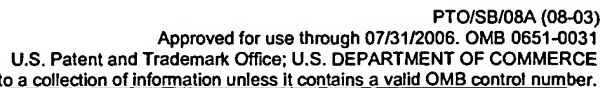
Applicants respectfully request that the listed references be considered by the Examiner, and that the Examiner acknowledge consideration of these references by initialing and returning a copy of the attached form(s) with the next Official Action.

Respectfully submitted,

Dated: 15 January 2004



Edward L. Pencoske
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Substitute for form 1440-PTD

(Use as many sheets as necessary)

Sheet	1	of	1
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Compleat if Known

Application Number	10/666,147
Filing Date	18 September 2003
First Named Inventor	Deb et al.
Art Unit	2858
Examiner Name	Not Yet Assigned
Attorney Docket Number	DB001039-001

U. S. PATENT DOCUMENTS

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FOREIGN PATENT DOCUMENTS

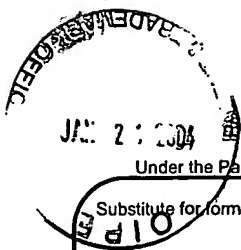
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Examiner Signature		Date Considered	
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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PTO/SB/08B (08-03)

Approved for use through 07/31/2006. OMB 0651-0031

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)				Complete if Known	
				Application Number	10/666,147
				Filing Date	18 September 2003
				First Named Inventor	Deb et al.
				Art Unit	2858
				Examiner Name	Not Yet Assigned
Sheet	1	of	3	Attorney Docket Number	DB001039-001

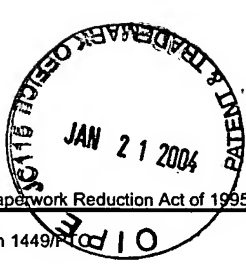
NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	✓	A. KOUREPENIS, J. BORENSTEIN, J. CONNELLY, R. ELLIOTT, P. WARD, and M. WEINBERG, "Performance of MEMS Inertial Sensors," Position Location and Navigation Symposium, pp. 1-8, April 1998.	
	✓	R. LAL, P.R. APTE, N.K. BHAT, G. BOSE, S. CHANDRA, and D.K. SHARMA, "MEMS: Technology, Design, CAD and Applications," pp. 24-25, Jan. 2002.	
	✓	S. CASS, "MEMS in Space," IEEE Spectrum, Vol. 38, Issue 7, pp. 56-61, July 2001.	
	✓	D.C. HUTCHISON, K. OHARA, and A. TAKEDA, "Application of Second Generation Advanced Multimedia Display Processor (AMDP2) in a Digital Micro-Mirror Array Based HDTV," Int'l Conference on Consumer Electronics (ICCE) pp. 294-295, June 2001.	
	✓	R.S. PAYNE, S. SHERMAN, S. LEWIS, and R.T. HOWE, "Surface Micromachining: From Vision to Reality to Vision," Proc. of International Solid State Circuits Conference, pp. 164-165, Feb. 1995.	
	✓	R. OBOE, "Use of MEMS Based Accelerometers in Hard Disk Drives," Proc. of International Conference on Advanced Intelligent Mechatronics, Vol. 2, pp. 1142-1147, 2001.	
	✓	A. HARTZELL and D. WOODILLA, "Reliability Methodology for Prediction of Micromachined Accelerometer Stiction," Proc. of Reliability Physics Symposium, pp. 202-205, March 1999.	
	✓	N. DEB and R.D. (Shawn) BLANTON, "Analysis of Failure Sources in Surface-Micromachined MEMS," Proc. International Test Conference, pp. 739-749, Oct. 2000.	
	✓	D. DE BRUYKER, A. COZMA, and R. PUERS, "A Combined Piezoresistive/Capacitive Pressure Sensor With Self-Test Function Based on Thermal Actuation," Proc. Solid State Sensors and Actuators, Vol. 2, pp. 1461-1464, 1997.	
	✓	H.V. ALLEN, SC.C. TERRY, and D.W. DE BRUIN, "Self-Testable Accelerometer Systems," Proc. Micro Electro Mechanical Systems, pp. 113-115, 1989.	

Examiner Signature		Date Considered	
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Substitute for form 1449/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Complete if Known

Application Number	10/666,147
Filing Date	18 September 2003
First Named Inventor	Deb et al.
Art Unit	2858
Examiner Name	Not Yet Assigned
Attorney Docket Number	DB001039-001

Sheet 2 of 3

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	/	B. CHARLOT, S. MIR, F. PARRAIN, and B. COURTOIS, "Electrically Induced Stimuli for MEMS Self-Test," Proc. VLSI Test Symposium, pp. 210-215, Apr.-May 2001.	
	/	R. ROSING, A. LECHNER, A. RICHARDSON, and A. DOREY, "Fault Simulation and Modelling of Microelectromechanical Systems," Computing and Control Engineering Journal, Vol. 11, Issue 5, pp. 242-250, Oct. 2000.	
	/	A. KOLPEKWAR, R.D. BLANTON, and D. WOODILLA, "Failure Modes for Stiction in Surface-Micromachined MEMS," Proc. of International Test Conference, pp. 551-556, Oct. 1998.	
	/	T. JIANG and R.D. BLANTON, "Particulate Failures for Surface-Micromachined MEMS," Proc. of International Test Conference, pp. 329-337, Sept. 1999.	
	/	H. LUO, G.K. FEDDER, and L.R. CARLEY, "A 1 mG CMOS-MEMS Accelerometer," Proc. of Micro Electro Mechanical Systems, PP. 502-507, Jan. 2000.	
	/	W.C. TANG, T.-C.H. NGUYEN, M.W. JUDY, and R.T. HOWE, "Electrostatic Comb Drive of Lateral Polysilicon Resonators," Sensors and Actuators A, Vol. 21, Nos. 1-3, pp. 328-331, Feb. 1990.	
	/	J. XUESONG, J.I. SEEGER, M. KRAFT, and B.E. BOSER, "A Monolithic Surface Micromachined Z-axis Gyroscope with Digital Output," Symposium on VLSI Circuits, pp. 16-19, 2000.	
	/	N. DEB and R.D. BLANTON, "High-Level Fault Modeling in Surface-Micromachined MEMS," Proc. of Design, Test, Integration, and Packaging of MEMS/MOEMS, pp. 228-235, May 2000.	
	/	J. WU, G.K. FEDDER, and L.R. CARLEY, "A Low-Noise Low-Offset Chopper-Stabilized Capacitive-readout Amplifier for CMOS MEMS Accelerometers," Proc. of International Solid State Circuits Conference, pp. 428-429, Feb. 2002.	
	/	O. TABATA, K. TERASOMA, N. AGAWA, and K. YAMAMOTO, "Moving Mask LIGA (M/sup 2/LIGA) Process for Control of Side Wall Inclination," Proc. of Micro Electro Mechanical Systems Conference, pp. 252-256, Jan. 1999.	

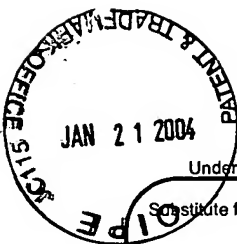
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Sheet	3	of	3	Attorney Docket Number	DB001039-001

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		S.V. IYER, H. LAKDAWALA, G.K. FEDDER, and T. MUKHERJEE, "Macromodeling Temperature-Dependent Curl in CMOS Micromachined Beams," Proc. of Modeling and Simulation of Microsystems Conference, pp. 88-91, March 2001.	
		Q. JING, H. LUO, T. MUKHERJEE, L.R. CARLEY, and G.K. FEDDER, "CMOS Micromechanical Bandpass Filter Design Using a Hierarchical MEMS Circuit Library," Proc. of Micro Electro Mechanical Systems Conference, pp. 187-192, Jan. 2000.	
		D.A. KOESTER, R. MAHADEVAN, and K.W. MARKUS, MUMPS Introduction and Design Rules, MCNC MEMS Technology Applications Center, 3021 Cornwallis Road Research Triangle Park, NC, Oct. 1994.	

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